



COLONY OF MAURITIUS

Annual Report  
of the  
Department of Agriculture  
1945

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PRINTED AND PUBLISHED BY  
J. ELIEL FELIX, ACTING GOVERNMENT PRINTER,  
PORT LOUIS, MAURITIUS, 1946.





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## Policy of the Department of Agriculture

During the war years policy centred very largely on food production and control, more than a quarter of the sugarcane area being consecrated to that end. But now every effort is being directed towards the reversion of such land to its normal occupation. Efficient production of sugar and all that is entailed thereby in every aspect thereof is, once more, the main policy of the Department of Agriculture.

Such policy, however, is not permitted to overshadow unduly either the maintenance or development of other agricultural industries and interests. In evidence of this may be quoted the stabilization of the fibre industry through the medium of the Sack Factory ; appointment of a special Tea Officer ; an established seed production scheme ; an ever expanding policy of co-operative credit.

## PART I

### General Report on the Agricultural conditions of the Colony and the work of the Department of Agriculture for the Year 1945

#### 1. Meteorological Conditions

Weather conditions during the year have been greatly disturbed and, on the whole, very unfavourable for growth. The Island has been visited by three cyclones of extreme intensity in January, February and April and cane yield has been accordingly very poor.

The dry conditions prevailing during the harvesting season have, however, been favourable to the maturation of cane and sucrose per cent. cane has been above expectation, particularly in the North of the Island.

#### 2. Sugar Production

The total cane reaped amounted to 1,248,562 metric tons, as compared with 1,764,207 metric tons in 1944. The average extraction of sugar per cent. of cane for the whole Island was 11.14, as against 11.31 in 1944. The total commercial sugar manufactured was 139.05 thousand metric tons, in defect by 60.59 thousand metric tons or 30 per cent. on 1944. The crop was therefore the lowest on record *for the past forty-seven years.*

The proportion of various grades of sugar was the following—

|                            |     |     |     | Thousand<br>metric tons |
|----------------------------|-----|-----|-----|-------------------------|
| Raw sugars                 | ... | ... | ... | 124.96                  |
| Granulated Whites (vesous) | ... | ... | ... | 13.82                   |
| Low Sugars                 | ... | ... | ... | 0.28                    |

### 3. Area under Sugarcane

At the beginning of 1945 the area under sugarcane was estimated at 121,857 acres, of which 86,027 acres belonged to estates with or without factory.

Owing to cessation of compulsory food-production on estate lands, the acreage under cane has increased to a considerable extent during the latter part of the year. Approximately 8,000 acres had been replanted in cane by the end of June on estates of 20 arpents or more.

### 4. Sugar Market and Disposal of the Sugar Crop

The whole exportable sugar crop was purchased by the Ministry of Food.

The total sugar exported during the 1944-45 crop year (1st August, 1944, to 31st July, 1945), was 188,664 metric tons. The amount exported between 1st August, 1945, and 31st December, 1945, was 51,636 metric tons.

The apparent local sugar consumption in 1944-45 amounted to 23,402 metric tons.

### 5. Labour and Cost of Living

Labour difficulties experienced in factories during the crushing season have been one of the factors affecting the recovery of sugar. Factories have worked, on the average, 13 hours per day during the crop, as against 12 in 1944 and 18.4 pre-war. This decrease during the war period is the result of several factors which *inter alia*, comprise the mobilisation of man-power and greater labour exigencies.

### 6. Importation of Agricultural Machinery and Fertilizers

In 1945, machinery to the value of Rs. 874,776 was imported, and tramway material to the value of Rs. 356,594. The importation of farm tractors, ploughs and parts amounted to Rs. 266,571. A total of 12,231,865 kilos of chemical fertilizers valued at Rs. 2,576,377 was imported during the year.

### 7. Insect Pests and Plant Diseases

The usual larval survey of *Clemora smithi* (Arrow) was carried out on certain estates, the results showing a decrease in the degree of infestation on some of the estates, a heavy increase on others, and no change on three estates.

Investigations on moth borers of sugarcane were carried out on a reduced scale. Infestation appears no worse than in normal years, but in the variety M.134/32, red rot amplifies borer damage, particularly in the coastal localities.

The sugarcane scale-insect, *Aulacaspis tegalensis*, Zehnt. is being kept under control.

Eucalyptus continues to be severely attacked by the leaf-feeding weevil, *Gonipteris scutellatus*, Gyll.



Experiments are being continued with the use of insect dusts for the control of *Calandra oryzae* L. in maize ; the results obtained so far are promising. The insecticide D.D.T. is proving remarkably effective against the housefly and stablefly.

The insect population of the Island has been greatly upset as a result of the severe cyclonic disturbances occurring during the year ; most of the parasites and predators have been destroyed and some insects which were formerly pests of minor importance were found to be in such high recrudescence as to become serious pests.

Mr. P. O. Wiehé, the Plant Pathologist, left Mauritius in May on mission to the West Indies and the U.S.A., in connection with special studies on the control of *Cordia macrostachya* Jacq. in the Island, and other questions of agricultural importance to the Colony.

### 8. Tobacco

During the year under review, 286,920 Kilos of Tobacco valued at Rs. 407,364 were produced consisting of—

|            |     |     |     | Kilos            |
|------------|-----|-----|-----|------------------|
| Flue cured | ... | ... | ... | 194,901.7        |
| Air cured  | ... | ... | ... | 92,018.4         |
| TOTAL      |     |     |     | <u>286,920.1</u> |

Rodrigues' contribution to this total amounted to 1,556 kilos valued at Rs. 1,399.

The area under tobacco in 1945 was 600.40 acres.

The cyclone of April, 1945, caused considerable damage to seed beds and young plantations, and, after the cyclone, further serious damage was caused by " Damping off ".

' Leaf Miners ' and ' Cutworms ' also caused severe damage, and ' Granville Wilt,' ' Mosaic ' and ' Black Shank ' have been somewhat extensively observed.

During the year, the situation deteriorated further on account of the drought which prevailed particularly in the Flacq and Pamplemousses districts and threatened seriously to diminish the crop.

The rains which occurred towards the end of the year caused secondary growth which resulted in the production of low grade leaf.

### 9. Fibre, Tea, Coconut and Groundnut

*Fibre.* The following was produced by the Quatre Bornes Sack Factory in 1945—

|                             |     |     |     |     |              |
|-----------------------------|-----|-----|-----|-----|--------------|
| 55-Kilos bags               | ... | ... | ... | ... | 743,295      |
| 80-Kilo bags                | ... | ... | ... | ... | 303,326      |
| Filter-press cloth          | ... | ... | ... | ... | 13,935 yards |
| Tea-factory cloth           | ... | ... | ... | ... | 8,607 yards  |
| Yarn (for rope manufacture) | ... | ... | ... | ... | 19,789 kilos |

The total quantity of fibre produced in 1945 was 741 tons, and sisal, 69 tons.

The exportation of fibre amounted to 3,214 kilos valued at Rs. 2,082.

The fibre industry of the Island has sustained considerable losses as a result of the three cyclones experienced during the year. Damage has been caused to both aloë-fibre factories and plantations. Many of the factories have had their roofs removed by the wind and in consequence stored fibre was completely lost and fibre production upset. Some damage occurred in the yarn-producing section of the Quatre Bornes Sack Factory.

In the case of aloë fibre plantations, the majority of the leaves ready to be harvested have been damaged by the wind and the fibres subsequently injured through fermentation. It is feared that an indirect effect of the cyclones will be a further invasion of the fibre plantations by the weed *Cordia macrostachya* Jacq. (Herbe Condé).

*Tea.* The total acreage under tea at the end of 1945 was 1,888 arpents, while the total tea production during the crop year 1st October, 1944, to 30th September, 1945, was 163,200 kgs.

The total number of tea-factories in operation was five. There are five factories licensed to manufacture Indian tea. One licence has been issued for the preparation of green tea for the consumption of the local Chinese community.

Considerable damage was caused to tea plantations by the cyclones which visited the Island.

*Coconut and Groundnut.* No coprah or coconut oil was exported in 1945. 345,709 kilos of edible coconut oil were produced by the Innova Factory in 1945. No groundnut oil was produced.

## 10. Alcohol

The total quantity of alcohol distilled in 1945 was the following—

|                                                 | <i>Litres</i>         |
|-------------------------------------------------|-----------------------|
| Denatured for heating and lighting purposes ... | 247,510               |
| For human consumption ... ..                    | 1,149,500             |
| Denature as " carburant " ... ..                | 5,170,590             |
| TOTAL ...                                       | <hr/> 6,567,600 <hr/> |

In all, 12 distilleries were in operation in 1945. The export of rum in 1945 amounted to 73,683 litres valued at Rs. 14,886.

## 11. Food Crops

His Excellency the Governor announced in Council towards the end of January that the enforced plantation of food-crops on estates of 20 arpents or more, would be no longer compulsory and that the land so occupied could revert to cane.



The total acreage devoted to food production was accordingly small and what little has been planted has been considerably damaged by cyclones. Yield of maize has been, on the whole, extremely poor.

Selection and propagation of improved maize strains was continued. Controlled crossing and selfing have been pursued with the object of building up new maize strains and pure lines. A certain quantity of seed maize has been issued to planters for commercial growing. A strain of white maize suitable for local conditions was obtained by crossing the imported Synthetic Anveld with local selections.

## 12. Veterinary and Livestock

The importation of cattle for food from Madagascar amounted to 6,270 and from Rodriguez, 172\*. The total bovines on estates at the beginning of 1945 was 9,112 head, as against 10,123 in 1944. The sanitary condition of herds was generally satisfactory, and the elimination of tuberculosis steadily pursued.

In view of the strong desire shown by owners of milch cows to secure the services of pure-bred bulls on the one hand, and the difficulties envisaged for importing further pure-bred bulls on the other hand, experiments have been carried out with artificial insemination of milch cows. Results have been so far very encouraging, about 80 per cent., of the inseminated females having become pregnant, and the first calves born in very good condition.

## 13. General

I wish to record my deep appreciation of the measure of assistance which I have unhesitatingly been accorded by the Staff of the Department during the year.

The work of the Sugarcane Research Station and the various Divisions has, as usual, been conducted in an atmosphere of close co-operation with the planting community of the Island. To the very large number of cultivators—members of all classes of the community—who have afforded opportunities for special investigation I take this opportunity of presenting the gratitude of this Department.

G. E. BODKIN,  
*Director of Agriculture.*

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\* Figures supplied by the Customs.

## PART II

**Report on the Sugarcane Research Station and Divisional Reports of the Department of Agriculture****Sugarcane Research Station**

The work of the Station was again limited by shortage of staff. The Senior Chemist, Officer-in-Charge, was on leave from the 27th March, and had not returned by the end of the year. The Botanist was released from the Information Office in July, but left the Colony on 11th August on a medical certificate. Mr. S. M. Feillafé was appointed temporary Scientific Assistant in the Botanical Division on 13th April, and Mr. M. Sooltangos took up his post as temporary Assistant for Cultural and Manurial Experiments on 1st October.

2. Plans for the opening of a third Experiment Station, to be situated in the wet, cold highland region, were approved by Government during the year. A suitable area has been chosen, and it is hoped that building work will be commenced shortly.

3. In the Geneticist's Division, the work of producing new sugarcane varieties was pursued energetically and a satisfactory breeding season was experienced in spite of the shortage of parent arrows due to damage to plots by cyclones. Three new varieties were released in September, and several thousand canes of these were distributed to growers in all districts. In addition to these locally produced varieties, six of the most promising of the newer West Indian varieties were imported by air from Trinidad in October, and have made good growth in the quarantine greenhouse at Réduit. It is felt, therefore, that there will be no more shortage of first-class varieties in the near future to be tested against the widely-grown M.134/32.

4. The Island crop was the lowest since 1898, largely on account of the havoc wrought by the three cyclones experienced early in the year. Were it not for the variety M.134/32, which now occupies together with other Sugarcane Research Station varieties approximately 70 per cent. of the land under cane, there is no doubt that the crop would have been far more disastrous. Some anxiety was felt in certain districts concerning the extent of red rot disease shown by M.134/32, but as yet it is impossible to say definitely to what extent this was a result of the cyclone damage. In any case, it is considered unsatisfactory that a single variety should exist virtually in monoculture, as is the case in certain districts with M.134/32, and it is hoped that the newer varieties mentioned above will shortly find their place in cultivation.

A bulletin describing the work of the Station in producing new sugarcane varieties, and the benefits derived by the industry from the growing of these, was prepared during the year and will be published shortly.

5. In the Botanical division, work was mainly concerned with preliminary experiments on the control of canefield weeds by chemical methods and by flaming. This aspect of the work of the Station will be extended on the return of the Senior Chemist, who has discussed the question with the authorities whilst in England.

6. The Chemical division continued the studies in progress on the method of foliar diagnosis as a means of assessing nutrient deficiencies, and also commenced a comprehensive series of long-term experiments designed to obtain fundamental information concerning the growth and nutrition of the sugarcane under various environmental conditions.

7. The Senior Chemist continued to act as Assistant to the Director of Agriculture until his departure on leave, and also to administer the regulations concerning the distribution and sale of chemical fertilizers. The Geneticist continued his work of maize improvement throughout the year, and selected strains of maize were made available to growers.

8. A separate report is being published, which describes the work of the Station during the year in greater detail.

G. C. STEVENSON, *Geneticist,*  
*Acting Officer-in-charge,*  
*Sugarcane Research Station*

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## Agricultural Division

1. With the abandonment of the foodcrops production scheme, most of the officers of this Division could devote their full time to their duties. Nevertheless, the tea industry continued to receive attention pending the appointment of a special officer, while assistance was given as in the past to the Veterinary Division in connection with the Palmar Cattle Station. One officer was specially engaged in rehabilitating Government House Grounds, "Le Réduit." The Division was also responsible for the control of fertiliser distribution from the end of August to the end of December.

The writer served on the Industrial Development Advisory Committee to the findings of which he contributed a separate report. With the assistance of Mr. J. Pilot, Superintendent of the Bois Chéri Estates Company Limited, he also prepared a report on the tea industry and its possibilities in Mauritius.

## 2. Experimental Work

The cyclones of January and February were so violent that all the field trials laid down earlier in the season were almost entirely destroyed. What had been spared was allowed to remain undisturbed with a view to save, for the next season, as much planting material as possible. In consequence, towards the end of the year, trials were laid down with yams, peanuts, chillies and other crops.

Kurraikan (*Eleusine coracana*) was planted at the three Experimental Stations and at Richelieu. Results were disappointing. The plant was, in addition, severely attacked by borers.



*Tomatoes.* The Marglobe variety was planted at P.E.S.\* in May. It is claimed for this variety that it is resistant to bacterial wilt, but one third of the plantation succumbed to the disease. Surviving plants did not yield more than one kilo of fruits per plant. A second plantation, made in summer (November), was totally destroyed by this disease.

With a view to increasing resistance to bacterial wilt crosses of tomatoes with the local cherry tomato (pomme d'amour) were made for trial and further crossing in the ensuing year.

*Cherry Tomatoes* (pomme d'amour). A yield trial was laid down at P.E.S. to ascertain the response to different manurial treatments, but the prevalence of dry conditions were such that no useful comparisons could be made.

With a view to ascertaining the best and cheapest means of preserving tomato juice, a series of recipes was tested. Results so far are not very conclusive. Owing to the great abundance at times of tomatoes on the market, followed by equally great scarcity, a cheap and handy method of preserving this highly perishable article with the idea of starting a small home-canning industry is worth investigating. This work will be proceeded with next year.

### 3. Vegetable Seed Production

In view of the resumption of importation of vegetable seeds on a greater scale, local production was curtailed. However, the work, undertaken as an emergency measure, proved to be so full of promising avenues for further investigation that it has been decided to pursue it on a smaller basis, devoting most attention to such vegetables as cauliflower, Chinese cabbage, Peas, Beans, etc., in which locally raised and selected seeds have proved superior to imported seeds.

To this effect, a new programme has been prepared and, in order to cut down expenditure to a minimum, most of the work will be carried out at Réduit and Barkly Experimental Stations.

The following quantities of seeds were produced during the year:

|                       | Kilos |                    | Kilos |
|-----------------------|-------|--------------------|-------|
| Tomato ... ..         | 2.9   | Salsifis ... ..    | 7.0   |
| Brède de Chine ... .. | .5    | Carrots ... ..     | 2.6   |
| Petsai ... ..         | 4.5   | Lettuce ... ..     | 8.0   |
| Peas ... ..           | 325.0 | Cauliflower ... .. | 5.0   |
| Beans ... ..          | 350.0 | Cow peas ... ..    | 3.0   |
| Radish ... ..         | 1.0   | Leeks ... ..       | 0.1   |
| Capsicum ... ..       | 4.8   | Parsley ... ..     | 1.0   |
| Egg plant ... ..      | 3.0   | Beet root ... ..   | 1.5   |
| Winged bean ... ..    | 6.0   |                    |       |

The seeds produced at the Department of Agriculture helped in no small measure to re-establish the rapid production of vegetables immediately after the visitation of the 1945 cyclones.

\* P.E.S. = Pamplemousses Experimental Station.

#### 4. Maintenance

This year it was not so much maintaining as repairing and rebuilding what the cyclones had damaged or destroyed. At Barkly : Office, tools store, plant sheds ; at Abercromby Nursery : Office and Overseer's Quarters ; at Central Experimental Station, Office, cattle shed, outhouses ; at Pamplemousses : fern shed, huts, kiosks, bridges, camp and railing.

#### 5. Royal Botanical Gardens, Pamplemousses

The cyclones left these gardens in a state of havoc. A large number of trees, some of them rare specimens, were uprooted, while the damage done to many others was severe. So badly hit was the Gardens, that a scheme was proposed for its rehabilitation. It is hoped that for several years to come the amount made available for this will enable considerable reconstitution to be effected, but in view of the fact that it is more difficult to rehabilitate than to create, it is doubtful if the Gardens will ever regain their pristine beauty. However, a promising start has been made and there is already some evidence of improvement.

#### 6. Plant Propagation

Plant propagation work was seriously interfered with by the hurricanes and the severe drought which prevailed during the last months of the year. Over 75 per cent. of young plants of all categories was lost. Every effort was made to place propagation and nursery work on a better footing with the result that considerable progress has been effected. A new programme of work was evolved calculated to produce more of those plants which the public needs. There is much unexploited scope in this direction and it is hoped that in two or three years considerable headway would have been made.

#### 7. Revenue

The revenue from the sale of plants has fallen considerably this year. People appeared to lose heart for a time after the cyclones and the following drought did nothing to improve matters.

Moreover, the loss of plant has been so severe that many would-be purchasers had to be sent empty away.

The sale of vegetable seeds brought in Rs. 2,880.

The sale of economic and ornamental plants at Barkly Experimental Station was Rs. 849.45, while at Abercromby Nursery it produced Rs. 941.65.

The value of the timber made over to the Forest Department from the Royal Botanical Gardens after the cyclones was Rs. 3,189.78.

#### 8. School Gardens

Twenty-nine school gardens were inspected at regular intervals. No prizes were awarded in 1945, owing to the abnormality of a year during which cyclones and Poliomyelitis resulted in the closing of schools for an appreciable time.

### 9. Allotments

By the close of the year the 108 huts, destroyed by the cyclones out of a total of 121, had been rebuilt. The work was performed by this Division, the allottees concerned being responsible only for the covering and lining of the huts, all the required material being supplied free by Government. There is evidence of a small but encouraging increase in the keeping of livestock by the allottees. A few of these people are very deserving, but most take little interest in their plots of land beyond the fact that they are provided free of rent with a small dwelling.

### 10. Higher Agricultural Education

The courses in Agricultural subjects and practical demonstrations were given to students of the College of Agriculture as in previous years.

### 11. Tea Industry

*Area and production.* The area under tea was unchanged, no new planting being authorised by law. The total production of made tea from 1st October, 1944, to 30th September, 1945, was 163,200 kilos.

*Factories.* The five registered factories continued in operation. A temporary licence to manufacture green tea was issued.

*Inspections.* Officers of this Division made inspections of factories and plantations in accordance with the provisions of the Tea Industry Control Ordinance.

*Expert.* It was learnt late in the year that an expert was coming out early in 1946 to investigate the growing and manufacture of tea in Mauritius with a view to the future development of the industry.

### 12. Fibre Industry

Investigations into the development and behaviour of *Agave sisalana* and *Furcraea gigantea*, under field conditions, were initiated. Special care is being taken to ascertain the rate of growth of the two plants. These investigations should prove of considerable value when a final choice has to be made between sisal and *furcraea* as the backbone of the local fibre industry.

A small variety trial with *Furcraea gigantea* (aloes creole), *Agave sisalana* (sisal) and *Agave Amaniensis* has been laid out at Chaumière.

### 13. Lalang Grass Destruction

Lalang grass (*Imperata cylindrica*), which was introduced into the Island some decades ago "for the making of grass pots" at the Royal Botanical Gardens, was found to be spreading in the gardens where it was already covering an area of about five acres.

In other parts of the Colony, especially in the upper Plaines Wilhems region and at Moka, it was found that there were many small patches of this obnoxious grass, totalling over seven and a half acres.

Its eradication and destruction has been authorised and it has been cleared from the Royal Botanical Gardens and over small plots at Curepipe and Vacoas. Some three acres remain to be uprooted in the coming year.

A. NORTH-COOMBES,  
Senior Agricultural Officer.



## Co-operative Credit Societies Division

One outstanding incident in the year was a visit from Mr. W. H. K. Campbell, C.M.G., late Registrar, Co-operative Societies Ceylon. Mr. Campbell arrived in Mauritius on the 3rd February, 1945, in response to an invitation from Government to spend a period of three months advising on co-operative matters. He has studied the work which has been done and in a special report has made suggestions as to how the movement could best be developed and extended.

2. Having formed the opinion that the basis of the movement is at present too narrow and that the Agricultural Co-operative Credit Societies in operation have now given the inhabitants some idea of the advantages which can be reaped by combined action, Mr. Campbell has recommended that the scope of the movement should be extended to include other activities. To meet this requirement the Co-operative Societies Ordinance No. 51 of 1945, the provisions of which afford a wide range of activities for the application of the doctrine of co-operation, has been passed on the 25th October, 1945.

3. Considering that the rule which requires that no loan should ever be granted by any of the societies unless an officer of the Division is present at the meeting which grants it has now served its purpose, steps have, in accordance with the terms of Mr. Campbell's suggestions, been taken to permit 24 Societies to start work on fully responsible lines. In these 24 Societies the Inspectors are no longer supervising the issuing of loans but they continue to visit them frequently, point out errors, and advise Committees as to the action they should take. This reform will be introduced gradually in the remaining societies.

4. The following administrative changes occurred during the year—

- (a) Honourable G. E. Bodkin, C.B.E., the Registrar, was absent from the Colony on leave as from the 11th August.
- (b) Mr. L. Madhoo, Assistant Registrar, went on three months leave as from the 1st August, preparatory to retirement.
- (c) Mr. E. Bedsy, Inspector Co-operative Credit Societies, acted as Assistant Registrar during Mr. Madhoo's leave and proceeded to Rodrigues on the 27th August to perform a general overhaul of the movement in that Dependency. He returned to the Colony on the 21st December.
- (d) Mr. L. Julien, Clerical Assistant, acted as Inspector Co-operative Credit Societies in addition to the performance of his clerical duties from the 1st August to the 31st October.
- (e) Messrs. Bedsy and Julien were appointed as Assistant Registrar and Inspector Co-operative Credit Societies respectively, as from the 1st November.
- (f) The strength of the Inspectorate was augmented by the appointment of Mr. D. Bhuwanee as whole-time Inspector as from the 14th May.

As a result of these very considerable administrative changes the year under review was one of heavy strain on the Joint Registrar particularly. To keep pace with the development of the movement he has, in addition to the performance of his ordinary duties and the general control of the movement, had to bear the added burden of regular inspection of 12 Societies.

5. Three new Societies were registered in Mauritius during the year. The number of Societies in active operation as on the 31st December, was 73 in Mauritius and 14 in Rodriguez making a grand total of 87 active Societies. Excepting the Rodrigues Fishermen Co-operative Credit Society Limited, the others are all of the Unlimited Liability type.

6. The policy whereby members are allowed to increase their share-holdings by deductions from loans granted to them was maintained. The contribution in this direction in respect of the financial year 1944-45 amounted to Rs. 31,849.

7. The share of Government in the finance of the movement is steadily increasing. The amount of money loaned from Government during the year was Rs. 45,400. This has been advanced to 10 Societies. Instalments of loans due to Government totalling Rs. 20,350 were punctually repaid to the Treasury. During the same period Rs. 5,012 interest were repaid on Government loans held. The aggregate amount of the advances due to Government at the close of the year was Rs. 204,395 and was held by 53 Societies in Mauritius and 13 in Rodriguez.

8. In conformity with the existing policy the Societies have confined themselves to short term loans almost exclusively for agricultural purposes.

There are a certain proportion for repairing buildings, for purchasing cattle and repairing carts, freeing land from debt, etc. Owing to the disastrous effects of the January-February-April cyclones, which rendered many members homeless, the proportion of loans recorded for the purpose of repairs to buildings was Rs. 14,582 as against Rs. 2,881 last year.

9. Despite the adverse climatic conditions experienced during the year, on the whole the condition of the Societies can be considered very sound and the working harmonious. The "bonus" which the Imperial Government has accorded to the Sugar Industry to compensate the damages it sustained through cyclonic visitations during two years in succession has proved exceedingly helpful to these Societies.

10. Co-operation can do much for the economic progress of any class of people who have no assets provided their diligence and honesty are secured. Actuated by the progress achieved by the Agricultural Credit Societies, a great deal of time and effort were expended during the year on an attempt to induce the fishermen at Mahebourg to participate in the benefits to be derived from co-operative organisations. Unfortunately the results, so far, have been barren. Nevertheless, the position is not considered hopeless and a further trial is being envisaged in the Northern part of the Island where, presumably, the diligence and honesty of the fishing community may be assured.

11. The work of the Societies forms the subject of a special report issued after the close of the financial year. The details of the working thereof for the financial year ended 30th June, 1945, are shewn in such report.

M. BURRENCHOBAY, *Joint Registrar,*  
*Co-operative Credit Societies*

## Division of Plant Pathology

### 1. Diseases of Sugarcane

#### RED ROT

Red rot on the variety M.134/32 was again widespread in 1945. The attacks occurred both from the rhizome upwards and upon aerial parts of the stem. In the latter case, connection with borer injury was frequently encountered, chiefly in the littoral districts and the dry regions of the North of the Island; but in a large proportion of the cases in general, the infection was not correlated with insect damage to the stem. These observations and the fact that the disease was commonly observed to have progressed through several internodes in the affected cane from individual sites of infection indicate that the variety M.134/32 has again shown a greater susceptibility to red rot than in former years.

### 2. Miscellaneous Diseases

#### A. BUD ROT OF THE ROYAL PALM

The researches started in 1944 on the bud rot of the royal palm *Roystonea regia* O. F. Cook were concluded this year by the identification of its causative organism as *Bacterium vasculorum* (Cobb) Gr. Smith (*Xanthomonas vasculorum* Dawson). A preliminary note on the subject was published in *La Revue Agricole de Maurice*, Vol. 24, No. 2.

The presence of the disease is indicated by the slow drying out of the leaves from the oldest inwards, but sometimes a certain number of green leaves are still present towards the middle of the crown when the youngest leaf pushing out begins to dry out. In all advanced cases, the central cylinder of young leaves and the tissues near the growing point collapse into a vile, stinking mass. The vascular bundles of the stem, leaf sheaths and leaf stalks slowly exude drops of yellow gum on being cut across and cavities filled with yellow gum are often present in the tender tissues of the top. No case of recovery has been observed.

The identity of the pathogen was determined by the laboratory study of its characters and by the production of the characteristic gumming stripes following inoculation into sugar cane, maize and the broom bamboo or "Bambou fataque" *Thysanolaena maxima* (Roxb.) O. Kuntze. The bacterium was also successfully reinoculated into the royal palm and cross-inoculated into the white palm *Dictyosperma album* Wendl. and Drude. It was reisolated from all the plants mentioned.

#### B. GUMMING DISEASE OF THE WHITE PALM

A few cases of leaf blighting caused by the sugar cane gumming disease organism *Xanthomonas vasculorum* were detected on tall white palm plants at Anse Jonchée in Grand Port.

A plot laid out in 1937 at the Central Experiment Station with white palm and red palm (*D. rubrum* Wendl. and Drude) plants showed in June of this year 19 out of 26 plants of the former and 1 out of 8 of the latter with leaves more or less heavily blighted by *X. vasculorum*. The disease had not



been previously observed in the plot, which was flanked with border rows of the very susceptible M.55 1182 cane variety : the latter had been left to ratoon since 1937 and to pick up the disease each year by its own means. It had been laid down for the specific purpose of trying to determine how the disease passes in nature from the sugarcane to the palm plant. Shortage of staff, however, prevented researches in this connection this year, but from the observations made, it is considered that the theory advanced previously that gumming disease on palm " is not apparently in the first place a leaf disease " (La Revue Agricole de l'Île Maurice, XX, p. 31, 1941) may not be correct. It would seem that secondary infection of the opened leaves from outside sources does take place. Further work is still necessary on the subject.

Strangely enough, a row of " bambou fataque," planted in 1937 contiguous to the plot, showed no infection whatever.

### C. OTHER DISEASES RECORDED

Tomatoes. Buckeye rot, caused by *Phytophthora* sp.

Peas and Beans. Wilt, and attack of fruit in contact with the ground, caused by *Sclerotinia Sclerotiorum* (Libb.) Mass.

*Melilotus* spp., Collar rot caused by *Colletotrichum* sp.

## 3. Control of Imported Plant Material

The following sugarcane varieties were imported by air from Trinidad with the kind assistance of the R.A.F., for use by the Sugarcane Research Station: B.3337, B.3439, B.4098, B.34104, B.37161 and B.37172. They remained only 20 days in transit and were received in excellent condition. They have been planted in the Quarantine Greenhouse at the Central Experiment Station.

Inspection of plant material at the Customs in Port Louis was carried out as usual. With the resumption of civilian transport by air after the cessation of the war, the control of imported plants and plant parts was extended to the air bases in the Island. As a result it was found that the procedure adopted to guard against the possible introduction of insects by air transport was not to the satisfaction of the Department of Agriculture. The attention of Government and of the departments concerned was drawn to the matter, and correspondence is proceeding on the subject.

Owing to the existence abroad of a virus disease on sweet potato *Ipomea batatas* (Linn.) Lam., a Proclamation was passed during the year, prohibiting the introduction into Mauritius of living parts of the plant.

## 4. General

At the request of the Agricultural Adviser to the Secretary of States, clove leaves were collected and forwarded to Prof. T. Wallace of the University of Bristol Agricultural and Horticultural Research Station at Long Ashton, with the object of helping Prof. Wallace to determine the cause of the so-called " Sudden Death " disease of clove trees in Zanzibar.

With the object of determining the yeast content of La Ferme irrigation water in connection with the proposed erection of a yeast factory at Richelieu, a mycological analysis of several samples of that water was made at the request of the Sugar Technologist of the Department.

Lectures on Botanical subjects were delivered at the College of Agriculture by Mr. A. de Sornay and later during the year by Mr. E. Rocheconste (Elementary Botany), and by the writer (Agricultural Botany).

The research work of the Division was curtailed this year, the fourth in succession, to a still greater degree than in previous years, on account (a) of the Food Production and of the Sugarcane Replanting Schemes, (b) of the absence on mission of the Plant Pathologist and (c) of the enlisting of the services of the Acting Assistant Plant Pathologist during the crop for helping the Sugar Technological Division in effecting analyses of small planters' canes at factories.

With regard to (a) the Plant Pathologist supervised the production of foodcrops on estates of more than 200 arpents during January, after which the scheme was dropped. The Assistant Plant Pathologist and the Plant Inspector continued to act as Regional and Assistant Regional Food Production Officers in the northern districts of the island during the same month. From February onwards, the Plant Pathologist was in control of the replanting under cane of foodcrop lands by planters, big and small, throughout the island.

With reference to (b), the Plant Pathologist left Mauritius on 1st May, on mission to the West Indies and the U.S.A., in connection with special studies on the control of "Herbe Condé," *Cordia macrostachya* Jacq. in the island, and other questions of agricultural importance to the Colony. The Plant Pathologist returned on 20th December, last. The results of his mission will form the subject of special reports.

G. ORIAN,  
*Assistant Plant Pathologist.*

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## Sugar Technological Division

### 1. Visits to Factories, Investigations, etc.

During the year under review, 34 sugar factories were visited by the Sugar Technologist and his Assistant as well as 11 distilleries producing power alcohol, high degree phlegms and rum.

Testing of milling plant with a view to determining the work of each unit of the tandem and setting for maximum efficiency was done on request in a number of factories. In two factories all the processes of manufacture were inquired into at the request of the respective managers and recommendations were made for the improvement of methods used.

Advice was given when sought for and routine analytical work carried out for the factories.

## 2. Production of Distillers' Yeast

A small factory has been erected at Réduit for the production of distillers' yeast both for human consumption and for feeding animals. At present, due to a relatively small amount of residue available from distilleries, the total production is for human consumption.

## 3. Hydrogenation of Edible Oil

The Sugar Technologist who had had the opportunity of studying the question in England in 1944 helped factories hitherto to solve different problems concerning the purification and hydrogenation of oils.

## 4. Analysis of Boiler Feed Water

Boiler feed water of a number of factories was analysed. The determinations included suspended matter, soda, iron, aluminium and manganese, lime, magnesium, sulphuric anhydride, chlorine, oxygen, ammonia, total dissolved solids, acidity and hardness. All the waters examined were found to be saturated with oxygen. There is no factory in Mauritius equipped with a deaerator of boiler feed water and costly repairs to economisers are required yearly on account of oxygen in boiler feed water corroding the economiser tubes.

## 5. Measurement of Electrical Conductivity of Masse Cuite

A modern development in the boiling of masse cuites is the use of electrical conductivity as a criterion of supersaturation. For accurate measurement of electrical conductivity it is necessary to have an electric current of constant voltage and, in that respect, serious difficulties are encountered. The problem was studied by the Assistant Sugar Technologist and a new device was developed and will be tried out in several sugar factories next year.

## 6. " Contrôle Mutuel " and Factory Results

28 factories contributed to the fortnightly returns which were distributed as usual. The sucrose content averaged 13.30 as compared with 13.42 and 14.04 in 1944 and 1943 respectively. Due to the effect of the cyclones and, also, the labour difficulties encountered in factories, the recovery of sugar was adversely influenced, the average Boiling House Efficiency being 2 per cent. lower than in previous years.

## 7. Educational

The usual lectures and practical demonstrations were delivered by the Sugar Technologist and Assistant Sugar Technologist to students of the Agricultural College who were also taken on visits to factories.

## 8. General

The technical work and other duties relative to administrative work of the Central Board were discharged by the Sugar Technologist and Assistant Sugar Technologist with the help of the officers of the Board. The work of the Central Board will form the subject of a separate report. The Sugar Technologist acted as Chairman, and the Assistant Sugar Technologist as Secretary of the " Comité d'Analyses " of the " Société des Chimistes ". The



Committee has been actively engaged in drafting recommendations in respect of the Chemical and Industrial Control of Sugar Manufacture. The Sugar Technologist also sat on the Alcohol Sub-Committee of the Control Development and Welfare Committee.

### 9. Staff

Mr. R. Antoine, the Scientist Assistant resigned and proceeded to England to study biology at London University. The vacancy was filled up by the appointment of Mr. S. Belcourt. During the absence on leave of the Director of Agriculture, the Sugar Technologist acted as Chairman of the Central Board and the Assistant Sugar Technologist as Registrar, Central Board.

R. AVICE,  
*Sugar Technologist.*

## Entomological Division

### 1. Staff

The Entomologist, Dr. W. F. Jepson, O.B.E., resumed his substantive post on the 17th May, 1945. He then went on European leave in August, 1945. As from this time Messrs. A. Mouta and R. Mamet were respectively appointed Acting Entomologist and Acting Assistant Entomologist.

Mr. P. Regnard resumed his post of Second Phytaras Officer on the 20th August, 1945. He was working, from December 1942 up to the above-mentioned date, on special war work in Mauritius and Madagascar. He left the Island on the 20th December, 1945, on entomological mission to South Africa.

### 2. Pests of Sugarcane

#### (a) *Clemora smithi* (ARROW)

During the year under review the usual larval survey was carried out on 45 estates. Decreases in the degree of infestation were recorded on 15 estates; heavy increases on 4 estates, of which one showed a mean infestation of 266,000 larvae per acre, with a maximum of 417,000 larvae per acre; slight increases on 11 estates and on 2 estates the infestation was stationary. On estates where the survey had not been carried out since a long time, high infestations were recorded on 3 estates.

Parasites, particularly *Campsomeris lachesis* Sauss., *C. phalerata* Sauss., *C. erythrogaster* Dal., were recorded in fair numbers in only one locality. After the three cyclones which occurred at the beginning of the year, these parasites disappeared completely and were subsequently recorded in the same locality at the end of August. In 10 other localities, *Scoliids*, especially *Campsomeris* spp., were recorded in fair numbers. *Campsomeris pilosella* Sauss., was found in few numbers in only one locality. *Tiphia paralella* Sm., which was very scarce during the past years, was recorded in large numbers in 7 localities after the first two cyclonic disturbances. At the end of the year, few *Tiphia* were recorded in one locality and large numbers in another locality.

Parasites were collected and the following were distributed in 9 localities—

690 *Campsomeris phalerata* Sauss.

625 *Campsomeris lachesis* Sauss.

380 *Campsomeris erythrogaster* Dal.

115 *Tiphia paralella* Sm.

Cuttings and plants of the Javan shrub, *Eupatorium pallescens*, an excellent food-plant for *Scolids*, were distributed to 3 estates and planted at Réduit.

Adult beetles were collected in two localities and bred for Tachinid parasites with negative results.

To cope with the above serious situation, the Second Phytalus Officer has been sent to South Africa with a view to collecting and sending from that country further parasites of white grubs. Other parasites were expected shortly from Canada, though the Imperial Parasite Laboratory. Furthermore, steps are being taken for starting another entomological mission in North Africa with a view to obtaining parasites of white grubs from that country.

### (b) MOTH BORERS

Investigations on moth borers of sugarcane were carried out on a very reduced scale. As the main program of work against these insects consists in the importation of parasites from other countries and since conditions have not returned to normal, no parasites could be imported from abroad. It is contemplated in the near future to re-open the parasite work in Madagascar, when more borer parasites will be introduced in the Island.

The bionomics of the various borer parasites have been closely studied in the laboratory. It was found that the life cycle of *Xanthopimpla citrina* Holmgr. and *X. stemmator* Thunb., were respectively 24 and 31 days in winter as compared to 16 and 24 days in summer. *X. citrina* appears to be a more active parasite than *X. stemmator*.

## 3. Miscellaneous Pests

### (a) EFFECT OF THE CYCLONIC DISTURBANCES ON THE INCIDENCE OF INSECT PESTS AND INSECT PARASITES IN THE ISLAND

As a result of the severe cyclonic disturbances which occurred in January, February and April 1945, a general upset was noticed in the insect population of the Island. Some insects which in normal years existed as potential pests or pests of very minor importance were found, after the cyclones above mentioned, to be in such high recrudescence as to become serious pests. This state of affairs can, undoubtedly, be attributed to a disturbance in the biological equilibrium of these insects. Most of the parasites and predators, including insectivorous birds, died through the action of the severe prevailing gales or by starvation owing to insufficient food plant material. As a result, the following insects were noticed causing severe damages after the cyclones:

(a) *Pelopidas borbonica* Bdv. On rice plantations in the North of the Island.

- (b) *Gryllotalpa africana* P.B. On various seedlings and on cane cuttings.
- (c) *Crambus malacellus* Dup. On rice and other graminæ.
- (d) *Aiolopus* sp. Swarms of this species have been noticed at Terre Rouge on various graminæ.
- (e) *Pericyma glaucinans* Gn. On *Delonix regia* (Flamboyant). The plants were completely defoliated by this insect.
- (f) *Gonipterus scutellatus* Gyll. Adults of this species were common 15 days after the cyclones which seem to have had no effect on this insect.
- (g) *Trichoptilus wahlbergi* Zell. On sweet potato.
- (h) *Adoretus versutus* Har. On "Pois Mascate" plantations.
- (i) Moth Borers of Sugarcane: *Proceras sacchariphagus* Boj. and *Sesamia vuteria* Stoll.
- (j) *Papilio demodocus* Esp. Numerous attacks on Citrus plants consequent on the decrease in the incidence of the egg parasite *Telenomus* sp.
- (k) Various cutworms, especially *Spodoptera ciliata* Bdv. mainly on lawns. These cutworms were attacked by a bacterial disease. Three strains of bacteria were found and their inoculation to fresh caterpillars were negative.

It is interesting to note that the white grub parasite, *Tiphia paralella* Sm. which was rarely found before the cyclones, was abundant 15 days after the climatic disturbances. These insects were searching foodplants which were very scarce and which had been completely defoliated. This is a typical instance showing that one of the factors limiting the increase of the parasite population of *Clemora Smithi* (Arr.) in Mauritius is the cyclonic disturbances which annihilate the parasite population through lack of foodplants.

Bees were also found dying in large numbers after the cyclones, starvation being the main cause of such a state of affairs. Coccinellids were also very scarce and a recrudescence of the coconut scale, *Aspidiotus destructor* Sign., was noticed in some localities.

The parasites of the sugarcane borers, *Xanthopimpla stemmator* Thumb. and *X. citrina* Holmgr., were very scarce and several recrudescences of borer attacks were reported.

(b) THE EUCALYPTUS SNOUT BEETLE: *Gonipterus scutellatus* Gyll.

Numerous egg capsules and larvæ of this beetle were examined for parasites with negative results. Steps have been taken to obtain from South Africa the egg-parasite *Anaphoidea nitens* Gir. If this parasite is found in fairly large numbers in South Africa shipments thereof may be expected early next year.



## (c) PESTS OF STORED PRODUCTS

Several experiments with inert dusts (Micronized basalt, Trachyte, clay, etc.), have been carried out. The final results tend to show that micronized basalt can check to a great extent attacks of *Calandra oryzae* L. on maize grains but has no effect on the attacks of *Corcyra cephalonica* Staint., and *Sitotroga cerealella* Ol. The use of this inert dust is therefore of limited value. Trachyte powder obtained locally from La Selle Mt., has nearly a lethal value equal to that of micronized basalt, though the former was not in a micronized state. Trachyte and Basalt are potential sources of inert dusts in the Colony.

## (d) INSECT PESTS OF FARM AND DOMESTIC ANIMALS

A systematic survey of all the ecto-parasites of farm and domestic animals in Mauritius has been started with the co-operation of the Veterinary Division.

## 4. Insecticides

## (a) EXPERIMENTS WITH DDT

(i) *Experiments against the Bean fly, Melanoagromyza phaseoli* Coq.

Field experiments in order to test the effectiveness of DDT in emulsion and dust forms were conducted against *M. phaseoli*. Results obtained with DDT at concentrations of .25% and 0.50% in kerosene-soap emulsion were very erratic. In one series of experiments the yield was increased 5 times (as compared with the control plots) whilst in another series no significant difference was observed between the treated and control plots. Large scale experiments seem necessary for obtaining conclusive results. Such experiments are now in progress.

(ii) *DDT incorporated in floor polish.*

An experiment was carried out with DDT incorporated in floor polish at the rate 5%. Results were contradictory: in some places, fleas were reported to have been checked, whilst in others, no significant results were obtained.

(ii) *DDT against Bruchids.*

5% DDT in kerosene as well as 3% DDT in talcum powder were tried against the bean bruchids. Recently harvested pulses grains which were known to have been previously infested with bruchids in the field were (a) placed in petrol tins previously sprayed with 5% DDT in kerosene; (b) mixed with 5% of talcum powder containing 3% DDT and placed in petrol tins. The tins were carefully sealed with paraffin wax and two months afterwards the grains were examined with the following results—

| Experiment              |     | PERCENTAGE GERMINATION        |                      |                     |      |
|-------------------------|-----|-------------------------------|----------------------|---------------------|------|
|                         |     | Percentage of<br>grains bored | Before<br>Experiment | After<br>Experiment |      |
| 3% DDT in talcum powder | ... | 0.8                           | 94.6                 | ...                 | 69.9 |
| 5% DDT in kerosene      | ... | 0.4                           | 94.6                 | ...                 | 68.5 |
| Control                 | ... | 2.5                           | 94.6                 | ...                 | 72.6 |

It would appear that DDT in kerosene and in talcum powder at the rates mentioned above, has had no effect on the breeding of the Bruchids without, however, impairing to a marked degree the germination power of the beans. The experiments are still in progress.

### (b) PLANT INSECTICIDE

With the ready co-operation of the Director of the Amami Research Institute and of the Royal Air Force, Derris cuttings obtained from clones of high rotenone content were received from East Africa. A total of 228 cuttings were received and are now under special care in the Department nursery.

### 5. Control of the Black Sage, *Cordia interrupta*

The study of the ecology of this weed in Mauritius was conducted under the lines drawn by the Plant Pathologist.

### 6. Miscellaneous

1. The preparation of an annotated list of insects and acarina of economic importance in Mauritius has been completed and has been submitted for publication in the *Bulletin of Entomological Research*.

2. Apart from the ordinary entomological work inherent to the various posts in the Entomological Division, officers of this division have been detailed to work outside the scope of Entomology.

The Acting Assistant Entomologist devoted, during the crop season, two days per week in the performance of sucrose tests at the request of the Central Board. This officer is also devoting nearly half a day per week as Secretary of the Sack Factory Advisory Board.

3. The Entomologist was appointed on a Timber Utilization Committee and suggestions for a general survey of all insects attacking timber were placed before the Committee for further consideration between the Director of Agriculture, the Conservator of Forests and the Director of Public Works.

4. As usual, courses in Entomology and Zoology were delivered during the year to students of the College of Agriculture by the Acting Entomologist and the Acting Assistant Entomologist respectively.

### 7. Publications

The following papers have been prepared and are now ready for publication—

- (a) "A Review of Twenty-five years of Economic Entomology in the Island of Mauritius," by L. A. Moutia and R. Mamet.
- (b) "The Malaria Problem in Mauritius; The Bionomics of Mauritian Anophelines," by W. F. Jepson, L. A. Moutia and C. M. Courtois.
- (c) "An Annotated List of Insects and Acarina of Economic Importance in Mauritius," by L. A. Moutia and R. Mamet.

A. MOUTIA,  
*Acting Entomologist.*

## Chemical Division

### Investigation work

#### 1. Aloe Fibre

The main line of research was the study of automatic decorticators in order to secure a decorticating machine which can be made easily transportable. Experiments on the softening of coarse sisal fibres by chemical treatments were also carried out and the preliminary results are promising. A thorough washing of the fibres in clean running water, either after a proper decortication or after the usual retting process, is an essential factor for the production of good fibres.

#### 2. Tobacco

A "selection" experiment was resumed at Réduit Experimental Station. Leaves from the Amarello variety grown at Circonstance (Petite Rivière) were first examined for their total sugar content, and the seeds from the plant giving the highest percentage, i.e., 7 per cent. were collected and sown at Réduit.

The leaves of all the healthy plants grown were examined for their sugar content which varies from 7% to 11.4%. The seeds from the plant with the higher content were selected for the next progeny plots.

The average sugar content of the Amarello variety is about 5 per cent.

#### 3. Meals

As in the previous year, samples of meals were analysed at the request of the Controller of Supplies.

The following figures are worth recording—

|                     | <i>Moisture</i> | <i>Ash</i> | <i>Fibre</i> | <i>Ether<br/>extract</i> | <i>Proteins</i> | <i>Carbohydrates</i> |
|---------------------|-----------------|------------|--------------|--------------------------|-----------------|----------------------|
| Ground nut meal ... | 6.97            | 5.97       | 3.91         | 10.69                    | 49.69           | 22.77                |
| Palm kernel ...     | 6.94            | 5.73       | 3.03         | 7.25                     | 48.87           | 28.18                |

#### 4. Ensilage

Sixteen tons of chopped cane tops were put in a silo at Palmar Experimental Station at the end of September 1941. The silo was opened in October during the year under review. In spite of adverse conditions—the covering shed having been blown down during the cyclone—the ensiled material was on the whole of good quality. Eleven tons of good colour, sweet flavour silage were obtained, readily eaten by animals at the rate of 20 lbs. per head per day.

The silage was examined chemically and presents the following features:

- (a) the amount of non volatile organic acids was largely in excess of the volatile organic acids and gives the satisfactory ratio of 1: 4.2 which shows that the fermentation has proceeded normally.
- (b) the protein breakdown however has not proceeded very far as shown by the low amount of volatile bases present, on the other hand the excess of the amino acids over the volatile bases indicated by the ratio 1: 2.1 characterised a good silage.



### 5. Vetivert Oil

A series of distillations of vetivert roots were performed at the request of the Agricultural Division. The amount of oil collected in all cases were found negligible.

### 6. Hydnocarpus Oil

All the Hydnocarpus trees were so badly damaged by the cyclones that it was not possible to supply the oil to the Leper Hospital during the year.

### 7. Milk

The analysis of samples of milk from the Government Dairy was performed as usual. The sampling was performed in February, May, July and October respectively. The figures below are quite satisfactory:

|         | <i>Total Solids</i> |       | <i>Fat</i> |     |
|---------|---------------------|-------|------------|-----|
|         | %                   |       | %          |     |
| Morning | ...                 | 12.34 | ...        | 3.7 |
| Evening | ...                 | 13.49 | ...        | 4.7 |

### 8. Routine Analysis

Sixty-five samples were received involving one hundred and ten determinations.

Two complete samples of water were analysed at the request of the Sugar Technologist in order to test their suitability for uses in a projected yeast factory.

### 9. Miscellaneous

The Chemist was in charge of fertilizer distribution until August when he assumed the actingship during the absence on leave of the Director of Agriculture. At the request of the Chairman of the Central Board, the Assistant Chemist, Mr. Berchon, performed sugar tests in two factories four days a week during the crop.

Plant inspections were regularly carried out at Plaisance Airfield, once or twice a week by the Scientific Assistant Mr. R. Rivalland.

Mr. E. Haddon was in charge of the work in connection with the aloë fibre investigation.

R. LINCOLN,  
*Chemist.*

## Tobacco Division

### Tobacco Research Station

#### CLIMATIC CONDITIONS

The year commenced with two severe cyclones—one in January and one in February—both of which destroyed all the seed beds which had been sown and did minor damage to the buildings. A further cyclone in April, though not so severe as the two preceding ones, also caused further damage to seed beds, destroying the newly sown beds. These conditions delayed the planting of all experiments.

The meteorological recordings for the year are given hereunder—

|           |     |     |    |     | RAINFALL       |        | TEMPERATURE FAH. |      |          |        |    |     | MEAN<br>RELATIVE<br>HUMIDITY |     |      |
|-----------|-----|-----|----|-----|----------------|--------|------------------|------|----------|--------|----|-----|------------------------------|-----|------|
|           |     |     |    |     | No. of<br>days | Inches | Mean             |      | Absolute |        |    |     | %                            |     |      |
|           |     |     |    |     |                |        | Max.             | Min. | Highest  | Lowest |    |     |                              |     |      |
| January   | ... | ... | 11 | ... | 12.82          | ...    | 86               | ...  | 74       | ...    | 90 | ... | 70                           | ... | 63.1 |
| February  | ... | ... | 11 | ... | 4.65           | ...    | 85               | ...  | 75       | ...    | 89 | ... | 69                           | ... | 64.3 |
| March     | ... | ... | 8  | ... | 6.30           | ...    | 85               | ...  | 77       | ...    | 88 | ... | 69                           | ... | 63.5 |
| April     | ... | ... | 9  | ... | 9.77           | ...    | 83               | ...  | 75       | ...    | 87 | ... | 67                           | ... | 67.5 |
| May       | ... | ... | 11 | ... | 2.66           | ...    | 79               | ...  | 71       | ...    | 89 | ... | 62                           | ... | 66.8 |
| June      | ... | ... | 9  | ... | 0.63           | ...    | 77               | ...  | 68       | ...    | 81 | ... | 59                           | ... | 63.9 |
| July      | ... | ... | 3  | ... | 0.18           | ...    | 76               | ...  | 65       | ...    | 80 | ... | 58                           | ... | 65.8 |
| August    | ... | ... | 10 | ... | 0.82           | ...    | 76               | ...  | 69       | ...    | 81 | ... | 61                           | ... | 61.6 |
| September | ... | ... | 2  | ... | 0.07           | ...    | 77               | ...  | 69       | ...    | 82 | ... | 58                           | ... | 57.3 |
| October   | ... | ... | 4  | ... | 1.56           | ...    | 78               | ...  | 67       | ...    | 84 | ... | 62                           | ... | 55.6 |
| November  | ... | ... | 8  | ... | 1.73           | ...    | 82               | ...  | 74       | ...    | 86 | ... | 85                           | ... | 56.5 |
| December  | ... | ... | 8  | ... | 2.91           | ...    | 84               | ...  | 77       | ...    | 88 | ... | 71                           | ... | 63.8 |
|           |     |     |    |     | 94             | ...    | 43.60            | ...  | 81       | ...    | 72 | ... | -                            | ... | 62.5 |

### Staff

During the year under review the Tobacco Board appointed one Senior Research Assistant, two Junior Research Assistants and one Clerical Assistant to work at the Station. These officers took up their appointments in April excepting the Senior Research Assistant who took up his appointment in July. This additional staff enabled a more complete programme to be carried out though for the greater part of the year they were mainly concerned with familiarising themselves with the various processes of tobacco cultivation.

### Research Work

Earlier in this report attention has been drawn to the damage done to seed beds by the cyclones and this naturally delayed planting, in some cases by two months. This delay was not without effect on the experiments as the very late planted experiments did not make the growth of the earlier planted, as will be seen from the results published hereafter. It is not possible to incorporate all results as the grading of the leaf from the late planted experiments has not been completed.

### Field Experiments

#### (1) SPACING AND VARIETY TRIAL

This experiment was designed to test three varieties: Bonanza, Jamaica Wrapper and White Mammoth at two inter row spacings—3 ft. and 4 ft.—and at three plant densities— $4\frac{1}{2}$  sq. ft., 6 sq. ft. and 9 sq. ft. per plant. The experiment was carried out in an incomplete block design with two replications, the plots being  $1/40$  of an acre. The results achieved may be summarised as follows:

| YIELD K'S PER ACRE $\pm 18.9$ |           |                    |     |                  |     |     |           |     |     |                 |     |     |     |     |
|-------------------------------|-----------|--------------------|-----|------------------|-----|-----|-----------|-----|-----|-----------------|-----|-----|-----|-----|
| Inter row<br>spacing<br>feet  | VARIETIES |                    |     |                  |     |     | DENSITIES |     |     | Mean $\pm 10.9$ |     |     |     |     |
|                               | Bonanza   | Jamaica<br>Wrapper |     | White<br>Mammoth | 1   | 2   | 3         |     |     |                 |     |     |     |     |
|                               |           |                    |     |                  |     |     |           |     |     |                 |     |     |     |     |
| 3                             | ...       | 434                | ... | 391              | ... | 364 | ...       | 485 | ... | 382             | ... | 322 | ... | 396 |
| 4                             | ...       | 383                | ... | 361              | ... | 349 | ...       | 401 | ... | 378             | ... | 312 | ... | 364 |
| Mean $\pm 13.4$               | ...       | 408                | ... | 376              | ... | 355 | ...       | 443 | ... | 380             | ... | 317 | ... | 380 |

The foregoing results do not completely confirm previous years results when the variety Jamaica wrapper was superior in yield to the other two whereas this year Bonanza is superior to the other two though not significantly better than Jamaica Wrapper.

The closer spacing under density 1—the spacings being 3 ft. by 1½ ft. and 4 ft. by 1 ft. 1½ ins., giving 9,680 plants to the acre—gave the highest yields, as was to be expected and there is no significant deviation in the linear decrease in the densities.

The inter row spacing of 3 ft. also gave higher yields than 4 ft. spacing.

One significant feature observed each year in this experiment was the more rapid growth of the plants in the close spacing. It has not been possible, however, to take growth measurements but this point will be investigated in future years.

It was natural to expect that the different spacings would have an effect on the grade of leaf obtained and therefore a grade index was calculated with the following results:

| GRADE INDEX $\pm 7.2$        |           |                    |                  |                 |       |     |                |
|------------------------------|-----------|--------------------|------------------|-----------------|-------|-----|----------------|
| Inter row<br>spacing<br>feet | VARIETIES |                    |                  | PLANT DENSITIES |       |     | Mean $\pm 4.1$ |
|                              | Bonanza   | Jamaica<br>Wrapper | White<br>Mammoth | 1               | 2     | 3   |                |
| 3                            | ... 340   | 324                | 318              | 335             | 333   | 314 | 327            |
| 4                            | ... 323   | 325                | 321              | 339             | 330   | 300 | 323            |
| Mean $\pm 5.1$               | ... 331.5 | 324.5              | 319.5            | 337             | 331.5 | 307 | 325            |

Whilst the variety Bonanza gave a slightly higher grade leaf than the other varieties there is no significant difference between varieties. The close spacing of density 1 gave a significantly higher grade leaf than the wide spacing under density 3, this, in combination with the higher yields obtained under the close spacing, would appear to indicate that the close spacing is to be recommended.

## (2) NITROGEN EXPERIMENT

This experiment was designed to test Sulphate of Ammonia and Nitrate of Soda at three different levels, viz., 12 kilos, 18 kilos and 24 kilos of nitrogen per acre—and three times of application, viz., (1) all at the time of planting, (2) half at the time of planting and half four weeks later, (3) one-third at the time of planting, one-third four weeks later and one-third eight weeks later. The experiment was carried out in an incomplete block design with two replications, the plots being one fortieth of an acre. All plots also received at the time of planting 40 kilos  $P_2O_5$  and 6 kilos  $K_2O$  per acre.

The variety used for the experiment was Jamaica Wrapper. All plots made rapid growth and despite a slight attack of Black Shank and Mildew yields were fair. The results may be summarised as follows:

| YIELDS KILOS PER ACRE $\pm 22$ |                      |     |     |     |     |     |                |     |     |                 |     |     |     |
|--------------------------------|----------------------|-----|-----|-----|-----|-----|----------------|-----|-----|-----------------|-----|-----|-----|
| Source                         | TIMES OF APPLICATION |     |     |     |     |     | LEVELS KGS. N. |     |     |                 |     |     |     |
|                                | (1)                  |     | (2) |     | (3) |     | 12N            | 18N | 24N | Mean $\pm 12.7$ |     |     |     |
| S. of Ammonia ...              | 446                  | ... | 387 | ... | 396 | ... | 393            | ... | 383 | ...             | 449 | ... | 410 |
| N. of Soda ...                 | 360                  | ... | 369 | ... | 374 | ... | 362            | ... | 366 | ...             | 374 | ... | 368 |
| Mean $\pm 15.6$                | 403                  | ... | 378 | ... | 385 | ... | 380            | ... | 375 | ...             | 412 | ... | 389 |



It is clear from the foregoing results that Sulphate of Ammonia has given better results than Nitrate of Soda and whilst in the case of the former there is a tendency for the yields to decrease when the fertilizer is applied in more than one application, though this decrease is not significant, the converse applies in respect of the latter.

The response to the increased application was significant. The effect of the treatments on the grade of leaf obtained is shown in the following table:

| GRADE INDEX $\pm 6.2$ |     |     |     |     |                |     |     |     |                |
|-----------------------|-----|-----|-----|-----|----------------|-----|-----|-----|----------------|
| TIMES OF APPLICATION  |     |     |     |     | LEVELS KGS. N. |     |     |     |                |
| Source                | (1) | (2) | (3) |     | 12N            | 18N | 24N |     | Mean $\pm 3.6$ |
| S. of Ammonia ...     | 379 | 390 | 374 | ... | 388            | 385 | 369 | ... | 381            |
| N. of Soda ...        | 396 | 379 | 374 | ... | 379            | 396 | 374 | ... | 383            |
| Mean $\pm 4.4$ ...    | 387 | 384 | 374 | ... | 383            | 390 | 372 | ... | 382            |

The effect of the fertilizers on the grade index has varied and it would appear that whilst a higher grade is obtained from two applications of Sulphate of Ammonia, one application of Nitrate of Soda gives the highest, in both cases three applications have reduced the grade. The quantity applied has also affected the grade, the heavy application in both cases reducing the grade significantly.

### (3) TOPPING AND SUCKERING EXPERIMENT

This experiment was designed to test the effect of the operations of topping and suckering on the yield and quality of the leaf. The topping treatments were: No topping, early topping and late topping; and two suckering experiments: No suckering and suckering as required. There were thus six treatments. The experiment was carried out in complete block design, with four replications, the plots were of one fortieth of an acre, the variety used being Yellow Mammoth.

The experiment, which was planted late owing to seed beds being destroyed by the April cyclone, suffered rather severely from Mildew which affected considerably the grade of leaf and, to a less extent the yields.

The yields obtained are set forth in the following table—

| YIELD IN KILOS PER ACRE $\pm 18.5$ |            |     |               |     |              |     |               |     |     |
|------------------------------------|------------|-----|---------------|-----|--------------|-----|---------------|-----|-----|
|                                    | No Topping |     | Early Topping |     | Late Topping |     | Mean $\pm 11$ |     |     |
| No Suckering ...                   | ...        | 192 | ...           | 186 | ...          | 204 | ...           | ... | 194 |
| Suckering ...                      | ...        | 224 | ...           | 307 | ...          | 286 | ...           | ... | 272 |
| Mean $\pm 13$ ...                  | ...        | 208 | ...           | 247 | ...          | 245 | ...           | ... | 233 |

From the results of this experiment the effect of suckering is most marked being highly significant and particularly when suckering is carried out in conjunction with topping. When no suckering is carried out there would appear to be a tendency for early topping to have a depressing effect of yield. The foregoing yields are low owing to the mildew attack.

The grade index figures cannot be considered as reliable for this experiment owing to the severe attack of mildew which reduced the grade of the leaf produced considerably.

#### (4) PHOSPHATE EXPERIMENT

An experiment designed to test Superphosphate, Precipitated Phosphate and Phosphatic Guano at two levels, viz., 20 kilos and 40 kilos  $P_2O_5$  and three times of application as in the Nitrogen experiment (2) was carried. In this experiment also planting was delayed owing to the destruction of seed beds by the April cyclone and in consequence of the late planting the yields were reduced considerably. There were no significant differences between any treatments in either yields or grade of leaf produced.

#### Plant Breeding

The breeding programme was revised during the year and was based on the suggestion made by Dr. Carson and only the most promising hybrids from previous work were planted and the strains from colchicine treated seed were discarded altogether. The main lines of work were:

- (a) Variety selection.
- (b) Variety crosses.
- (c) Hybrid selection.

##### (a) VARIETY SELECTION

This work was confined to those varieties which have already proved themselves suitable for local conditions and possess a flavour superior to Amarello, though selections of Amarello strains were continued. Altogether 31 selections were made and the leaf from each selection was cured and 36 were ultimately discarded after an examination of the cured leaf. The selection has for its object the maintenance of true type, increased yields and curing properties.

##### (b) VARIETY CROSSES

The main crossing work consisted of variety crosses with Amarello which variety is a heavy yielder and is not so susceptible to Black Shank disease. A large number of crosses between Amarello and Bonanza were done in order to test hybrid seed against the parent varieties.

Some crosses were done between plants of the same variety in order to ascertain whether the progeny from such crosses would be more vigorous than the progeny from normal self fertilised seed.

Seed from crosses made two years ago was sown and back crosses were carried out to both parent varieties.

##### (c) HYBRID SELECTION

Fifteen selected hybrids were planted on plots of 1/40th acre for further selection. Progeny from seven of the selections were homozygous in so far as vegetative characteristics were concerned.

#### Rotation Crops

No experiments with rotation crops were carried out and as far as possible all fields not required were placed under green dressing. Several new varieties of green dressing were obtained from Southern Rhodesia, these included Sunn Hemp—*Crotalaria juncea*—4 varieties of cow peas and 2 varieties of velvet beans.

Maize breeding work was continued at the Station by the Geneticist of the Sugarcane Research Station.

An area of approximately one acre of wheat was sown but the cost of sowing and harvesting without mechanical means renders the growing of this crop uneconomic.

### Educational

The Tobacco Board appointed three cadets to be trained in tobacco cultivation and the cadets commenced their training in April. On completion of their training the cadets will be appointed by the Tobacco Board as Tobacco Instructors when they will be assigned to definite districts to assist the tobacco producers and they will be called upon to reside in the district to which they are assigned.

The Board also appointed four apprentices who commenced their three year apprenticeship in April last. It is hoped by this means to train men in all the phases of tobacco production and to ultimately supply trained men for tobacco producers.

### General

During the year the writer continued to act as Secretary to the Tobacco Board and Manager of the Tobacco Warehouse.

G. CORBETT,  
Government Tobacco Officer.

## Veterinary Division

### HEAD I

#### A. Disease Control

##### 1. FIELD OPERATION

(a) *Trypanosomiasis*. Inspection was made in 1,583 centres, where 5,735 animals were subjected to clinical examination. They comprised chiefly herd, draft and milch bovines and to a lesser extent, equines, belonging either to estates, small breeders or Government. In each case blood smears were taken and examined. Only one positive case was detected on a draft bullock owned by Government. The causative agent was *T. Evansi*. The animal recovered after treatment with Naganol.

(b) *Tuberculosis*. 192 bovines were tested by the Officers of the Veterinary Division with P.P.D. Weybridge tuberculin. 37 positive reactions were recorded. Most of the reactors were finally sent to the Abattoirs.

(c) *Wire worms*. These parasites were found in 769 sheep and goats. Treatment with N.C.A. was successful in each case.

##### 2. RESEARCH OPERATION

*Abortion*. 6 cases were recorded on cows of the Government Dairy as against 15 in the previous year. The application of the antistreptococcic vaccine was maintained.



## B. Animal Husbandry

### 1. FIELD OPERATION

(a) *Herd Animals.* The interest of breeders appears to be diminishing in this direction and two herds were dispersed during the year in the Black River District. The main factor apparently was the higher cost of transport which renders the sale of manure difficult and unprofitable.

(b) *Milk Animals.* The Friesland bulls imported at the close of 1944 from South Africa were in steady demand at Curepipe, Barkly, Reduit, Long Mountain and Pamplémousses service Stations. At the end of the year they had served 435 cows.

### 2. RESEARCH OPERATION

(a) *Païmar Breeding Centre.* Two breeds are now in progress namely : Africander and "local" ; the Charolais breed has definitely failed to acclimatize itself, the only survivor of the pure bred imported stock being an under-developed heifer over 3 years old and yet unproductive. The Africanders are thriving well, both as purebreds and grades.

(b) *Artificial Insemination.* Experiments have been undertaken by the Division at the special request of the Director of Agriculture, with artificial insemination of cows, the semen used being that of purebred Friesland bulls. The cows of the Government Dairy were used for the purpose with the addition of two cows belonging to a neighbouring private Dairy. Experiments proved a success and about 80 per cent. of the cows treated developed pregnancy. At the end of the year five cows had already been born ; they were quite normal and calving had been quite normal, too, in each case. It is proposed to extend the practice to dairy cows throughout the whole Colony so as to obtain the maximum number of progeny of the limited number of purebred bulls available in the Colony.

## C. Improvement of Marketing of Animals and Animal Products

### 1. CASTRATION AND CAPONISING

286 bulls, rams, goats and boars were castrated and 34 cockrels caponized during the year in the course of demonstration work on Estates large and small.

### 2. SLAUGHTERING OF MILCH ANIMALS

Of the female bovines examined during the year at the request of the butchers, 1,975 were allowed to be slaughtered on account of old age unproductive or injury.

### 3. IMPORTATION FOR MEAT PURPOSES

*From Madagascar.* 6,270 bullocks ; 2,741 fowls ; 105 geese ; 104 ducks 6 turkeys ; 3 guinea fowls ; 2 goats and 30 tortoises.

*From Rodriguez.* 172 bullocks ; 11,883 fowls ; 107 turkeys ; 3 guinea fowls ; 2,322 goats and sheep and 905 pigs.

*From other Dependencies.* 58 pigs and 355 fowls.\*

\* Figures supplied by the Customs.

## 4. IMPORTATION FOR LOCAL BREEDING

*From Australia.* 14 fowls.

*From South Africa.* 4 dogs.

*From Dependencies.* 47 dogs.

## 5. IMPORTATION FOR DRAUGHT AND RACING PURPOSES

*From Dependencies.* 22 donkeys.

*From South Africa.* 10 race horses.

## 6. ABATTOIR VISITS

As in previous years, surprise visits to Abattoirs were paid occasionally by the Veterinary Officers.

## D. Veterinary Education

Lectures to students of the first, second and third year courses at the Agricultural College on Anatomy and Physiology of Farm Animals, Veterinary pathology and Animal husbandry, were delivered by the Veterinary Officer and his Assistant.

## HEAD II

## A. Quarantine

## 1. RÉDUIT KENNEL

Four pups of Terrier breed imported from South Africa in December are undergoing the six months quarantine prescribed by the Regulations.

## 2. FORT WILLIAM STATION

No animals subject to quarantine have been imported during the year.

## B. General

Stock Inspector T. Rivalland was sent on mission to Rodriguez to enquire into matters relative to animal breeding. He left Mauritius on the 27th August and returned on the 10th September, 1945.

F. E. LIONNET,  
*Veterinary Officer.*

## Government Diary

## Yield of Milk

|                       |     |     | <i>Litres</i> |
|-----------------------|-----|-----|---------------|
| Supplied to customers | ... | ... | 49,595        |
| Fed to calves         | ... | ... | 3,288         |
| Samples               | ... | ... | 25            |
| TOTAL                 | ... | ... | 52,908        |

### **Births**

25 calves were born during the year—11 males and 14 females. Three of these calves were the result of artificial insemination.

### **Deaths**

3 cows died during the year, one from peritonitis, one from foreign body in stomach, and one old cow from heart failure during difficult parturition.

### **Sales**

14 calves were sold to breeders—10 males and 4 females. In addition, 2 cows were slaughtered at Curepipe Abattoir for experiment in connection with tuberculin test and their carcasses sold to butcher.

### **Abortion**

6 cases were recorded during the year.

### **Tuberculosis**

9 cows showed doubtful reactions to the tuberculin test which was applied to the whole herd, 2 of them were slaughtered at Curepipe abattoir, one died from dystolmia during parturition and the others are kept in quarantine for further observation.

YVES LEFÉBURE,  
*Officer-in-Charge Dairy.*

## **Rodriguez**

### **1. General**

Weather conditions have been unfavourable during the year. The worst cyclone within living memory visited the island in January, destroying standing crops, 140 bullocks and one-sixth of the native dwellings. Fortunately the 1944 crops had been plentiful and stocks of food existed, while the money in circulation in the island as a result of war conditions was sufficient for the people's needs.

Rainfall distribution was poor throughout the year although the total precipitation was good, being 63 inches on the coast and 84 inches on the hills. In view of this poor distribution, the yield of the first maize crop was below the average, while that of the winter-sown crop was very light.

### **2. Experimental Station, Oyster Bay**

(i) *Staff.* Mr. P. Guérandel, the new overseer, arrived in December.

(ii) *Buildings.* The Superintendent's house, which has taken two and half years to rebuild, was completed. Repairs to stores and buildings were effected. A new dam has been erected to provide the Station and the adjoining village with drinking water.

(iii) *Experimental.* The best varieties of sweet potatoes from among the seedlings raised at the Station were released for propagation. 693 citrus seedlings were raised.

The selected maize received from Mauritius was grown for comparison with the local variety. The imported type produced bigger cobs but was outfielded by three of the native strains.



(iv) *Distribution of Plants and Seeds.* The following distribution of planting material was made: sweet potatoes: 21,000 cuttings; manioc: 2,820 sticks; yams: 240 lbs.; bread fruit: 51 plants; citrus: 603 seedlings together with 3,053 eucalyptus, 4,100 filao, 54 papaws, 6 mango grafts and seed tobacco.

(v) *Sale of Produce.* This amounted to Rs. 319.27 during the year.

### 3. Red Ants

The campaign of destruction could not keep pace with the dissemination of the ant colonies. It was, in consequence, discontinued in January. Diesel oil clay emulsion was, however, available for sale to planters. It is hoped to use derris root decoction in future.

### 4. Soil Erosion

Protective measures were carried out on the lands of five farmers at St. Gabriel and Brule. The Rodriguan appears, at last, to be evincing an interest in the results achieved and applications for advisory visits have noticeably increased. Twelve lessees were remitted one year's rent for the satisfactory antierosion work they have performed on their plots.

### 5. Prize-Holding Scheme

This was not held this year owing to the general disorganisation resulting from the passage of the cyclone.

### 6. Settlement of Ex-Servicemen

137 men of Rodriguez Garrison were settled on so many acres on demobilisation. Sixteen of these men were given plots at Baie Malgache, 97 on areas distracted from the Cattle Walk and 24 in various other parts of the Island.

A plan has been prepared for the settlement of the Rodriguans who served as pioneers in the Middle East during the war.

### 7. Land and other Leases

387 leases were prepared and signed during the year for 233 acres of arable land, 78 cattle posts, 79 residential sites, 3 shop sites, 1 free lease and one special lease of 17 acres at Mont Limon for the encouragement of the cultivation of Castor oil (*Ricinus communis*).

### 8. Stock Farm

(i) Buildings were repaired after the cyclone. The pasture was kept in good heart. The condition of the livestock has been poor, especially the Friesland cattle and the pedigree pigs. The livestock at the farm at the end of the year numbered:

- Afrikaner cattle: 1 bull, 1 cow, 1 heifer.
- Friesland cattle: 1 bull, 3 cows, 2 calves, 2 heifers.
- Catalonian donkeys: 3 jacks, 3 jennies.
- Pedigree pigs: 1 boar, 1 sow.
- Poultry: Turkeys—4 cocks and 7 hens.
- Rhode Island Red—2 cocks and 8 hens.

There were no Black-head Persian sheep at the Farm at the time of writing.

## (ii) INSPECTION

Mr. T. Rivalland, Stock Inspector, visited the Island and has submitted his recommendations for the improvement of livestock generally in the Dependency.

**9. Cattle Walk**

(i) A considerable area of the available pasture land was distracted from the Cattle Walk for the purpose of settling men of the Rodriguez Garrison who were demobilized in September. A further area will have to be distracted for the settlement of the returning pioneers. Thus, little by little, the Cattle Walk is being reduced, pasture giving way relentlessly before the irresistible pressure of the growing population.

(ii) The drinking troughs in various parts of the Walk were upkept. That at Vaugasailles was rebuilt.

(iii) Eradication of "vielle fille" (*latana camara*) was effected in the Cattle Walk from Baie Malgache to Baie Topaz. This plant which was introduced some ten years ago is now rapidly gaining ground and is threatening the productivity of the best pasture land in the Island.

**10. Miscellaneous**

(i) A new motor for the Station's boat has been applied for. The old one has given seven years' good service and is now useless.

(ii) The School Garden at Lataniers has been under the intelligent supervision of the Inspector Co-operative Credit Societies who resides within easy distance.

(iii) Windbreakers of casuarina were established in various parts of Baie Malgache and St. Gabriel.

(iv) A number of guango, cassia and carob have been planted in river reserves at Baie Malgache.

(v) Winter crops of beans and garlic failed to come up to standard owing to the damage done to the seed by dampness during the cyclone. *Phaseolus radiatus* was planted for the first time by one or two planters and realised the encouraging price of Rs. 1.50 per kilo.

(vi) Accacia seeds were in good demand and sold at 10 to 12 cents per kilo.

(vii) 32 bales of tobacco were exported to Mauritius.

(viii) Shipping was again inadequate for the available trade of Rodrigues this year.

R. JAUFFRET,  
Agricultural Superintendent.

## PART III

## Legislation

The following Ordinances, Proclamations and Government Notices were passed during the year:

*Ordinance No. 10.* Further to amend the Sale of Canes (Control) Ordinance, 1941.

*Ordinance No. 52.* To amend the Tobacco (Consolidation) Ordinance, 1944.

*Ordinance No. 64.* To validate a resolution of the Council of Government increasing the excise duty on leaf tobacco.

*Ordinance No. 69.* To provide for the control of the plantation and propagation of sugar cane varieties.

*Proclamation No. 15.* To proclaim the rate of Export Duty leviable on the Sugars of the 1944-45 crop.

*Proclamation No. 37.* To prohibit the introduction into Mauritius of living parts of the Sweet Potato, *Ipomea Batatas* (Linn.) Lam.

*Government Notice No. 28.* Defence (General) Regulations 1939—Molasses (Control) Order, 1945.

*Government Notice No. 185.* Defence (General) Regulations, 1939—Molasses (Compulsory Sale to Distilleries) Order, 1945.

*Government Notice No. 5.* Defence (General) Regulations, 1939—Power Alcohol (Control of Manufacture and sale) Order, 1945.

*Government Notice No. 61.* Royal Botanical Gardens of Pamplemousses—Regulations for securing Order and preservation of property in.

*Government Notice No. 121.* Tobacco Production and Marketing Ordinance 1943—Tobacco Production and Marketing Regulations, 1945.

*Government Notice No. 122.* Tobacco Production and Marketing (Registers and Accounts) Regulations, 1945.







